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BRIEFS

PLO DELEGATION'S VISIT--Tokyo July 18 KYODO--The Palestine Liberation Organization (PLO) has reversed its earlier decision and now is planning to send a delegation to Japan at the invitation of a Japanese-Palestinian friendship group, an official of PLO's office here said Friday. The four-member delegation, led by Muhammed Baqleh, a member of PLO's Lebanese office, will arrive in Tokyo Sunday evening. During its 13-day visit, the delegation will hold meetings with representatives of Japanese labor unions and women's organizations, according to the plan. Fathi Abd al-Hamid, head of PLO's Tokyo office, made known the delegation's coming trip at a meeting of the welcoming committee for the delegation formed by Ichio Asukata, chairman of the Japan Socialist Party, Liberal-Democratic Dietman Yoshio Kimura, author Makoto Oda and others. PLO had earlier canceled the plan saying that Japanese security authorities had notified the Foreign Ministry that the delegation members included a radical element connected with the Japanese Red Army. PLO changed its earlier decision and accepted repeated requests of the welcoming committee to send the delegation. One of the members in the original delegation has been replaced. [Text] [OW181305 Tokyo KYODO in English 1244 GMT 18 Jul 80]

CSO: 4120

SDF AIRCRAFT PROCUREMENT PROSPECTS FOR FY '81

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 p 5

[Text]

The three Staff Offices of the Self-Defense Force (SDF) have now completed explanations on their respective aircraft procurement requests for next fiscal year. The requests from the services will be deliberated at the internal bureaus of the Japanese Defense Agency (JDA) July through August, so that they can be included in the FY '81 defense budget request.

The requests of the three SDF are in line with the recent official instruction of State Minister for Defense Kichizo Hosoda and are expected to be approved by the JDA without many changes.

A service-by-service break down of the military aircraft procurement requests for FY 1981 follows:

GSDF

Eight OH-6D light observation helicopters, six HU-1H multi-mission helicopters and three LR-1 liaison/reconnaissance aircraft.

MSDF

One KM-2 trainer, four TC-90 instrument flight trainers and 12 HSS-2B antisubmarine helicopters.

ASDF

Four E-2C early warning aircraft, 10 F-1 support fighters, 19 T-2 advanced trainers, four T-3 primary trainers, three MU-2 utility aircraft, four V-107 search/rescue helicopters and six C-130H tactical transport aircraft.

Evaluation tests of the AH-1S antitank helicopter are still being promoted by the GSDF and whether or not procurement action will be taken for next fiscal year will be decided by the JDA in August.

CSO: 4120

ASDF FINISHING AIR DEFENSE MISSILE SELECTION

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 pp 5-7

[Text]

The Air Self-Defense Force (ASDF) will decide in the very near future on selection of the short-to-medium range surface-to-air missile (SAM) and the shoulder-launched portable missile which will be used for air defense missions around air bases and other important ASDF facilities. The internal bureaus of the Japanese Defense Agency (JDA) will make a final decision on the air force selection of the new missiles so that procurement of them can be included in the FY 1981 defense budget request which will be submitted to the Ministry of Finance by the end of August.

The ASDF has studied the Tan-SAM which the Technical R&D Institute (TR&DI) of the JDA and the Ground Self-Defense Force (GSDF) have developed for air defense missions, the Euromissile Roland which the US Army as well as the Federal Republic of Germany and France have officially adopted, and the British Army Rapier missile system.

It now appears that the ASDF has dropped the Rapier from its list because of range and other performance characteristics although it excels in all weather capability, sources report. The Japanese designed Tan-SAM and the Roland are the finalists, they say.

The radar homing Roland has good all weather capability and is reportedly able to destroy invading enemy aircraft before they reach their bomb release line. Of modular construction, the Roland can be installed on any field vehicles including tanks.

The infrared-ray homing Japanese Tan-SAM is not all weather, but excels in multiple target and continuous firing operation. The Tan-SAM unit will be carried on three trucks, one for the fire control system and two for launchers.

The ASDF will study these two missiles, considering maintenance and supply, and make a decision in early August.

Approximately 50 units of the SAM will be required by the ASDF. About a dozen units will be procured during the period of the FY 1980 - 84 Medium-Term Defense Program. As an initial step, two to four units will be requested in the FY 1981 defense budget.

As for the portable missile, the General Dynamics Stinger and the Shorts Blowpipe are listed as candidates. The ASDF plans to request 30 to 40 portable missiles in the FY '81 budget. About 120 units will be required during the MTDP.

To supplement the SAM and the shoulder-launched missile, the General Electric Vulcan machine gun will also be deployed for air base and radar site air defense missions. Fifty-three units are expected to be purchased during the MTDP.

The ASDF plans to defend its air bases and other important facilities with these three weapons systems.

CSO: 4120

GSDF FIELD ARTILLERY REEQUIPMENT PROGRAMS

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 pp 7-8

[Text]

The GSDF is finalizing plans to introduce new field artillery equipment during the FY 1980-84 Medium-Term Defense Program. Selection of a 155mm self-propelled howitzer will be made in this fall, while preparations are under way for local production of US Army's M110A2 203mm self-propelled howitzer. Initial funds for these programs are being included in GSDF's requests in the FY 1981 defense budget draft.

For an advanced and long-range 155mm self-propelled howitzer, the GSDF has been studying three types for local production; the US Army's M198, the Swedish Army's FH77, and the FH70 in service with British, West German, and Italian forces. Recently, a FH77B prototype has reportedly been completed. The new Swedish gun can fire the NATO-standard ammunition and the GSDF plans to send experts to Sweden to inspect the new gun before making a final decision.

The selected 155mm self-propelled howitzer will be placed in local production eventually. But, seven units are likely to be imported for training purposes in or around FY 1984. Work on a fully self-propelled type based on the selected howitzer will start in FY 1982.

Along with this program, the GSDF plans to upgrade 155mm howitzer ammunition. It intends to procure sample units of the US Army's copper-tip cannon-launched guided projectile (CLGP). The shell is fitted with a laser detector and homes on targets such as tanks. Accuracy is said to be as high as within 30cm. The laser-guided ammunition can be fired with conventional 155mm howitzers now in service with the US Army and NATO ground forces. The GSDF will procure the CLPG and the laser system. Initial units will be imported probably under a foreign military sales (FMS) contract between the US and Japanese governments.

Preparations for license production of the US Army M110A2 203mm self-propelled howitzer are under way. US Army officials have briefed Japanese manufacturers on local production. MHI, Komatsu, Hitachi, and Japan Steel are expected to be contracted and have already sent experts to the US for preliminary studies. It is expected Japan Steel will manufacture the barrels while MHI will be selected to manufacture the turret and other components. Komatsu and Hitachi will be designated to manufacture the chassis and transmission, respectively. Selection of contractors will be made before the end of this year.

The GSDF plans to order seven units in FY 1981 for training purposes.

CSO: 4120

JDA SIGNS FMS CONTRACT WITH USAF FOR FOUR F-15DJS

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 p 5

[Text]

The Japanese Defense Agency (JDA) has concluded a foreign military sales (FMS) contract with the US Department of Air Force for purchase of four F-15DJs, which are included in the 34 F-15s of the second order to be financed by the FY 1980 budget.

The FMS contract was signed at the end of June.

The value of the FMS contract is estimated at $110 million, covering four aircraft, initial spare parts and other expenses. Of the four aircraft, two will be delivered to JDA in May 1983 and the other two in July 1983 from McDonnell Douglas Corp.'s plant in St. Louis, Mo. This delivery schedule was seen as difficult last autumn because of tight schedules. Later, however, the USAF decided to slow its F-15 procurement, enabling the JDA to conclude the FMS contract as planned.

The ASDF intends to procure a total of 100 F-15s--88 F-15Js and 12 F-15DJs. Of the 88 F-15s, two will be purchased from the United States under FMS contract, and the remaining 86 will be supplied by domestic license production. The 12 F-15DJs are to be FMS purchases. Six were ordered in FY 1978 and four in the latest contract. A contract for the remaining two will be concluded in FY 1982.

CSO: 4120

GSDF COMPLETES AH-1S ANTITANK HELICOPTER TESTS

Tokyo JPS AVIATION REPORT-WEEKLY in English 9 Jul 80 pp 5, 6

[Text]

Pair-operation flight tests of the GSDF using two Bell AH-1S antitank helicopters ended in late June. A final report on the AH-1S evaluation program will be made during July along with a deployment plan to support the GSDF request for funding in FY 1981. The GSDF tested a single AH-1S between June last year and March this year. From late May, it operated two helicopters for about one month to study team operation tactics. The GSDF has been asking the internal bureaus of the JDA to start the Bell AH-1S procurement program in FY 1981 but the latter has been withholding a decision pending completion of operational evaluation. Now that completion of the JDA's draft for service plans for FY 1981 is needed in late August, sources predict screening of the GSDF plan for the antitank helicopter may not be completed in time for inclusion in the FY 1981 budget requests.

The GSDF's original plan called for procurement of the AH-1S helicopter in FY 1981 with an order for several units by import, to be followed by orders for six annually to local manufacturers or a total of 30 units by FY 1984. Eventually, the GSDF plans to deploy 3.5 squadrons.

In FY 1981, the GSDF plans to send a survey team to the US to be briefed by army authorities operational and logistical matters related to the antitank helicopter.

CSO: 4120

MILITARY

MORE ORIONS FOR MSDF

Tokyo JPS AVIATION REPORT-WEEKLY in English 9 Jul 80 p 6

[Text]

In preparing draft plans for the next Medium-Term Defense Program (MTDP) covering FYs 1983-87, the MSDF is confronted with the problem of whether it should procure more Lockheed P-3Cs beyond the authorized 45 aircraft or select a new type to cover phasing out of the Grumman S2F-1 and the Lockheed P2V-7 aircraft and also possible deactivation of one PS-1 flyingboat squadron.

The MSDF is authorized to maintain a total of 16 squadrons including 10 large fixed-wing aircraft and six land-based helicopter squadrons. Numerically, the MSDF air arm will comprise 100 large fixed-wing aircraft, 55 land-based helicopters, 30 shipborne helicopters, and 15 mine-sweeping helicopters; a total of 220 aircraft.

According to the next MTDP, however, MSDF air strength in FY 1984 will total 180 deployed in 14 operational squadrons comprising nine fixed-wing aircraft and five land-based helicopter squadrons. This is one squadron below authorized strength each. Forty-five P-3Cs are to replace P2V-7s and P-2Js in eight squadrons while there is no definite plan at present how to cover deactivation of two S2F-1 squadrons. The PS-1 flyingboat squadron's future is unclear, pending results of a combat capability evaluation program.

Selection of a land-based aircraft is thus related to an overall review of MSDF air arm structure. It is probable that further P-3C series of aircraft will be procure to form a 9th Orion squadron while S2F-1s will be replaced by helicopters, sources report.

CSO: 4120

MILITARY

MSDF PLANS TO PUSH FRAM PROGRAM

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 p 7

[Text]

According to the FY 1980-84 MTDP, the MSDF plans to construct 31 ships. During the same period, the MSDF also plans to modernize six destroyers under its Fleet Rehabilitation and Modernization (FRAM) program.

The FRAM program is intended to reequip old destroyers with advanced antiair and antiship weapons such as the Harpoon, Sea Sparrow missiles, and the Phalanx CIWS 20mm antiair machine gun system. The program will also extend the ship's service life from 24 years to 32 years. The cost is estimated to total ¥70,000 to 80,000 million (in FY 1980 value). The MSDF will have at the end of FY 1984 a total of 35 missile-armed destroyers.

Ships to receive the FRAM overhaul are four 3,100-ton DDAs of the Takatsuki class and two 4,700-ton DDHs of the Haruna class. According to present plans, the Takatsuki and Kikuzuki (DDAs) will enter the program in FY 1981. The DDH Haruna will be funded in FY 1982, followed by the Mochizuki and the Nagatsuki (DDAs) in FY 1983. The DDH Hiei will be funded in FY 1984.

The DDAs will be modified to be fitted with Harpoon, Sea Sparrow, Phalanx and a chaff launcher as well as advanced radar, fire control and tactical data processing systems.

CSO: 4120

MILITARY

MAJOR TRADI PROGRAMS IN FY 1981 FOR AIRCRAFT

Tokyo JPS AVIATION REPORT-WEEKLY in English 9 Jul 80 pp 7, 8

[Text]

The Technical R&D Institute (TRADI), JDA, has completed briefing the internal bureaus of the JDA on its military research and development programs for FY 1981. Major programs related to aircraft and avionics follow:-

MT-X---Basic designing of the next ASDF multi-role trainer will start in FY 1981. MT-X development is scheduled to be completed by FY 1987.

Small turbofan engine---Engineering development will continue in FY 1981 using the XF-3 engine. Five additional units will be built, following the first five units ordered this year.

CCV study---An ASDF T-2 supersonic trainer will be converted into an experimental aircraft to study a control-configured vehicle (CCV).

Advanced FCS---This is a new in-house research program. It is for an advanced fire control system (FCS) that will be used on advanced aircraft of the future.

Autopilot system---An ASDF F-1 support fighter will be modified to utilize the autopilot system for flight tests. The system will relieve the pilot from his heavy work load while the aircraft is in the initial mode to fire the ASM-1 air-to-ship guided missile.

ALQ-5 ECM---A ground test system will be procured for the ECM system which is scheduled to be installed on an ASDF C-1 jet transport.

[illegible] test system will be procured and be installed on an [illegible] F-15 fighter. As a new program, a modular type ECM system will be developed which can be used in different roles by changing modular components.

Engine failure detecting device---This new program aims at developing a device fitted with various sensors to detect engine failure.

Data marker---Under a new program, a marker system that can transmit data on current and other environmental conditions of the sea will be developed for use in sea-rescue missions.

Composite materials---This is an outgrowth of research work. Experimental composite materials will be manufactured and flight tested.

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MILITARY

TR&DI MICV DEVELOPMENT PROGRAM

Tokyo JPA AVIATION REPORT-WEEKLY in English 9 Jul 80 pp 8, 9

[Text]

The TR&DI, JDA, has started the mechanized infantry combat vehicle (MICV) development program with fabrication of a prototype turret. In FY 1981, the TR&DI plans to fabricate a chassis and a body. Major components will be ready for full-scale system integration in FYs 1982-83. The MICV prototype will undergo testing by the TR&DI in FY 1984 and operational tests by the GSDF the following year. It is expected that the program will culminate in adoption of the MICV in the GSDF standard weapons inventory in FY 1986.

The projected MICV will be armed with a turret-mounted Swiss Oerlikon KDE 35mm machine gun, one unit of which will be imported during the current fiscal year. It will be also armed with a Model 79 antiship/tank missile launcher developed domestically.

The engine for the MICV will have commonality with that for a new GSDF main battle tank presently under development for adoption in 1988. The MICV will be equipped with a water-cooled 6-cylinder 700hp diesel engine, while the Model 88 MBT will be powered by a 10-cylinder 1,500hp engine.

CSO: 4120

ASDF OFFICIALS LEAVE FOR U.S. FOR F-15 EVALUATION

Tokyo JPRS AVIATION REPORT-WEEKLY in English 16 Jul 80 pp 6-7

[Text]

The Air Self-Defense Force (ASDF) sent a four-member mission to the United States July 1 for technical evaluation of the F-15J fighter. The mission members are Col. Y. Otsubo, commander; Lt. Col. K. Kusatsu, in charge of technology; Maj. M. Kurakake, in charge of equipment; and Capt. S. Matsunaga, accounting.

They will join Maj. T. Arimoto and Lt. Col. Y. Abe, technology; to carry out ground evaluation tests until the end of September. Arimoto went to the United States in December 1978 and Abe in June 1979. They will also be joined by another official in charge of armament, who will leave at the end of August, and two of the three ASDF pilots undergoing USAF training since late last May. Thus, the ASDF F-15 evaluation team will consist of nine members in September. Following ground evaluation, the group will engage in flight evaluation tests from October to March 1981.

Subject to technical evaluation are two F-15s purchased under a foreign military sales contract with the USAF. Evaluation will center on equipment designed by the ASDF, including the datalink for the BADGE air defense system. One of the two F-15s made its first flight June 4 and is to be soon delivered to the Japanese Defense Agency (JDA). After delivery, McDonnell Douglas Corp. will carry out 10 flights of the aircraft in St. Louis to test the datalink. In October, ASDF pilots will fly it five times in the same place. Then, it will be transferred to Edwards AFB for another eight flights. This aircraft will also be used for AIM-7F and AIM-9L missile launching tests. Another F-15 fighter made its first flight June 18 prior to delivery to

the JDA at the end of July. It will fly 16 times at Edwards AFB to test its 20mm machine guns and confirm performance characteristics.

After the technical evaluation lasting until late next March, the two F-15s will be ferried to Japan by USAF pilots for the ASDF Air Proving Wing's operational tests starting in April 1981. One of the three ASDF pilots under training in the United States will return in early September to help the wing prepare for the operational tests.

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LATEST DELIVERY SCHEDULE FOR ASDF F-15'S GIVEN

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 pp 7-8

[Text]

The ASDF is proceeding with procurement of 100 McDonnell Douglas F-15J fighters including 12 F-15DJ two-seat trainers. In FY 1978, the first contract was concluded for 17 F-15Js and six F-15DJs.

A second contract for 30 F-15Js and four F-15DJs is scheduled to be signed in FY 1980. Accordingly, the ASDF concluded a foreign military sales (FMS) contract with the USAF July 27 for four F-15DJs. In response to the ASDF, the delivery schedule for the four aircraft has been set about 1.5 years earlier than originally planned. The aircraft will be delivered to the ASDF in May and June 1983 instead of January-March 1985. This will enable the ASDF to complete training F-15 pilots, calling for a revised delivery schedule of F-15J fighters.

The 30 F-15J fighters in the second contract were originally planned for delivery in 21 months from April 1983 through December 1984 at a rate of one to two aircraft monthly: 17 aircraft in FY 1983 and 13 in FY 1984. To meet the earlier delivery schedule for the F-15DJs, the ASDF will shortly begin negotiations with MHI, the prime contractor for the ASDF F-15J local production, on a revised delivery schedule for F-15J fighters.

Delivery of 17 F-15Js and six F-15DJs under the first contract will begin very soon with the first two F-15Js built in the US under FMS contract. MHI-Built F-15Js will be delivered between December 1981 and February 1983 at a rate of one aircraft monthly, or four in FY 1981 and 11 in FY 1982. The six F-15DJs under FMS contract will be delivered in December 1981 (four aircraft) and April 1982 (two aircraft).

It is expected the revised delivery schedule for the 40 F-15Js under the second contract will be delayed three months. It will begin in July instead of April of 1983 to continue to March 1985 at a rate of one to two aircraft monthly.

If such a revised schedule is adopted, delivery for 47 F-15Js and 10 F-15DJs under the first and second contracts will be two in FY 1980, eight in FY 1981, 13 in FY 1982, 17 in FY 1983, and 17 in FY 1984.

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BRIEFS

F-15 AIS DELIVERY--The first Avionics Intermediate Shop (AIS) for use with the ASDF F-15 fighter has arrived for delivery to MHI's Komaki South Plant. The Bendix-built system was purchased by MHI for testing electronic systems and equipment installed on the McDonnell Douglas fighter. Maintenance of the AIS is contracted to Tokyo Keiki (TKC). Under a service agreement with Bendix, TKC trained eight engineers in the US from July last year through February this year. The ASDF will procure four or five sets of the AIS for installation at F-15 bases. The first ASDF AIS was ordered through C. Itoh Aviation in FY 1979 for delivery to the ASDF Nyutabaru base in the fall of 1981. The second AIS will be ordered during the current fiscal year for installation at Chitose. A third will be purchased with FY 1981 funding. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 p 7]

PROCUREMENT PLAN FOR FY 1981--In addition to the 203mm self-propelled howitzers, the GSDF plans to procure various other weapons in FY 1981. Priorities are being given to 80 Model 74 main battle tanks and 34 Model 75 155mm self-propelled howitzers. Other items include 5,000 Model 64 rifles, 64 Model 62 heavy machine guns, 38 Model 74 tank machine guns, 12 Model 73 armored personnel carriers, nine Model 79 antiship/tank missile launchers, eight Model 75 self-propelled 130mm multi-rocket launchers, 36 81mm mortars, 220 84mm recoilless rifles, 30 Model 78 snow vehicles, six Model 78 tank recovery vehicles, and three Model 70 self-propelled pontoons. Planned purchase of the 66mm grenade launcher has been postponed to FY 1982 pending further evaluation tests. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 p 8]

PRODUCTION OF P-3C DOPPLER RADAR--The MSDF plans to place in local production the Doppler radar for its Lockheed P-3C aircraft, 45 of which are scheduled to be procured. Recently, the US Navy has upgraded avionics configurations of the P-3C Update II aircraft and the MSDF is expected to follow suit and adopt the Canadian Marconi Co. APN-227 Doppler radar. Pending a final decision of the MSDF, it is probable that Mitsubishi Precision Co. will be selected for license production of the APN-227 system for the MSDF P-3C. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 p 9]

GSDF TO SELECT CH-X IN 1982--The GSDF is holding studies on the CH-X, the large helicopter that will replace the V-107A currently in service. About 40 to 50 craft of the CH-X type will be required and types being studied include the Boeing-Vertol CH-47-414 and the Sikorsky CH-53E. In FY 1981, the GSDF plans to send several specialists to the US for detailed studies on these helicopters. Findings will be analyzed for GSDF selection of the CH-X in the spring of 1982 in time for drafting a procurement budget request for FY 1983. The GSDF plans to purchase two CH-X helicopters in FY 1983 for crew training purposes. Additional procurement is planned under the next phase Medium-Term Defense Program that will be drafted in FY 1981. [Text] [Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 pp 8-9]

CSO: 4120

ECONOMIC

STUDY GROUP DRAFTS GUIDELINES FOR JAPAN'S ECONOMIC MANAGEMENT

OW121211 Tokyo KYODO in English 1003 GMT 12 Jul 80

[Text] Tokyo July 12 KYODO--The late Prime Minister Masayoshi Ohira's private policy research group, in a report to the government, Saturday stressed the importance of human relations in Japan's future economic management.

The report, drafted as a guideline for the nation's economic management in the next 20 years, was submitted to Acting Prime Minister Masayoshi Ito.

In the report, the group, which calls itself "The Economic Management Research Group for the Era of Culture," urged the government to:

1. Establish overall policy planning and coordinating organs directly attached to the prime minister.

2. Carry out administrative reform in government agencies and local governments.

3. Promote extension of retirement age and introduce selective retirement age system.

4. Stop depending on national bonds in order to realize an efficient government.

5. Concentrate farmlands in the hands of large, nuclear farmers as a means to create affluent farms.

The report termed "the era of culture" as that time when the people became aware of the spiritual and cultural aspects of life which were apt to be overlooked during the economic affluence brought about by Japan's high industrialization and also became aware of high humanistic aspirations.

It emphasized that Japan's affluent society is being inhibited by lack of raw material and energy and faces difficulties in the forms of split and diversification of the people's values and disturbances in the international economic order such as the currency problem, trade and north-south problems.

These difficulties must be overcome and an energetic society be realized in order to create an era of culture, it stressed.

The report noted that Japan no longer has a model to pattern itself after since it has accomplished modernization and caught up with advanced Western countries.

The report pointed out that the Japanese sense of camaraderie and deep attachment to the group to which they belong, in which human relations are highly respected, have given birth to the vitality of Japanese organizations.

Thus, it said, if interdependence is removed and lack of definition of responsibility incidental to Japanese "collectivism" is clearly established, Japanese cultural peculiarities will be very humanistic and it should be useful in the economic management in the era of culture.

With these awarenesses, the report noted, "humanity," "independence," "creativity," "regionality," and "internationalism" should be respected as the fundamental concepts for economic management in the era of culture.

CSO: 4120

'KYODO': THREATENING CLOUDS GATHER ON JAPAN'S ECONOMIC HORIZON

OW2105Z3) Tokyo KYODO in English 0559 GMT 21 Jul 80

[Article by Hidesuke Nagashima]

[Text] Tokyo July 21 KYODO--Until recently, it looked as though Japan was enjoying the best economic health among the world's industrial nations, barreling along as the inflation-wracked Western world was lurching into recession.

But some threatening clouds are gathering on Japan's economic horizon, as if to foretell an approaching slowdown in the coming months.

Consumer spending is slowing down, commodity prices have dropped sharply, industrial production is turning sluggish and exports appear to be leveling off.

The Ministry of International Trade and Industry (MITI), on the basis of a recent survey, says warning signals are on for the Japanese economy.

The survey showed that Japanese industrialists, following healthy business expansion which saw record corporate profits in the last business period ended in March, are increasingly concerned about business prospects.

The survey, covering 11[illegible] companies in 19 industries, indicated an increase in the number of firms predicting a slowdown in production and exports in the immediate future.

It also showed an increasing number of companies were delaying their plant and equipment investment schedules in view of economic uncertainties.

"These data do not necessarily mean Japanese business is at a turning point," one MITI official stressed. The data, however, have raised a serious concern about Japan's economic future.

The signs of trouble, though still spotty, are prompting increasing calls for an end to the government's tight-credit stance, including a record-matching 9 percent official discount rate. The rate is the interest charged by the Bank of Japan--the central bank--on its loans to commercial banks.

MITI Vice Minister Toshihiko Yano himself says "priorities in Japan's economic policy should now be shifted from price controls to business incentives."

Consumer spending, the prime mover of Japan's economic expansion since last year, is slowing down.

Economists agree that this is inevitable since consumer price inflation is running at over 8 percent now while the annual pay increase for industrial workers this spring was in the modest 6-7 percent range--meaning a decline in real income.

"Besides," a private economist said, "consumers have become increasingly cautious in their spending patterns after the second oil crisis of 1979-80."

Department store sales remain apparently still active overall, but sales of high-price durables--sensitive to business trends--are on the downtrend.

Car sales--minicompacts and subcompacts--decreased 6.1 percent in April from a year earlier, 8 percent in May and 5.8 percent in June. Sales of TV sets, refrigerators and other home appliances are also turning sluggish.

Business for these durables, economists note, often serves as a leading indicator of general consumer spending.

Commodity market prices, meanwhile, have been dropping steadily in recent months. The price downturn--affecting steel, nonferrous metals, lumber, petroleum products, chemicals and other goods--is widely regarded as a harbinger of an economic slowdown.

The price drop was accelerated by declining commodity market prices overseas and the recent currency upheaval which has led to the yen's sharp depreciation against the dollar, making imports cheaper in Japan in yen terms.

In addition, some manufacturing industries stepped up production prior to the raise in power rates in April, causing a glut of some commodities.

Among other goods, building materials took a sharp price drop, with Japan's housing starts in recent months down 10 percent from a year earlier.

Another business indicator, industrial production, is leveling off and is certain to drop further in the coming months, when a cutback on steel production is scheduled.

Japan's steel industry is curtailing production in the current July-September period, facing a certain downturn in exports to the recession-battered U.S.

Exports in general also face a slowdown.

In June, Japan's exports on a customs clearance basis rose to a record dollar 11 billion, led by automobiles and electric appliances. But validated exports--a leading indicator--in the month edged down 0.5 percent from the previous month, adjusted for seasonal variations, registering about the same amount in dollar value.

With the recession deepening in the U.S., on which Japan depends for a quarter of its export trade, it is hardly surprising that Japanese exports are slowing down overall.

Besides steel exports already on the downtrend, Japan's car exports to the U.S. also face a certain downturn in the second half of this year, with protectionist pressure against Japanese carmakers building in the U.S.

The recent appreciation of the yen against the U.S. dollar is also hitting hard Japan's export-oriented manufacturing industries, making them less competitive in world markets.

Until the current turmoil, the industries had managed to cover rising raw material costs by improving productivity and increasing export volumes.

However, such strategies would hardly be workable now, with productivity already raised to the limit and exports slowing down to the recession-hit Western world.

One source of hope for the Japanese economy had been active equipment investments planned by big industries this year, up 22 percent.

However, as the MITI survey indicates, businesses tend to delay the implementation of the investment plans, amid uncertain business prospects.

Thus, despite assurances by MITI officials, the Japanese economy does appear to be at a turning point after a period of healthy expansion.

With that in mind, one of the first important jobs for the new cabinet of Prime Minister Zenko Suzuki would be to deal with growing demands from the business community for a cut in the official discount rate to stimulate the economy.

CSO: 4120

ECONOMIC

LABOR MINISTRY'S WHITE PAPER URGES INCREASED PRODUCTIVITY

OW110153 Tokyo KYODO in English 0138 GMT 11 Jul 80

[Text] Tokyo July 11 KYODO--The Labor Ministry said Friday that efforts should be continued in the future to raise labor productivity in order to improve the lot of the workers and maintain stable wages, prices and employment.

In an annual white paper on labor, the ministry noted that Japan's economy managed to cope with the sharp rises in crude oil prices and overcome the effects of the second oil shock amid severe environment chiefly due to the rise in the labor productivity.

The white paper, announced at the regular cabinet meeting by Labor Minister Takao Fujinami, said the livelihood of the workers can be improved only through raising labor productivity.

What is important, it said, is to utilize the results obtained in the high productivity sectors for price stabilization and strive for raising labor productivity in low productive sectors.

In order to raise labor productivity in the future also, it said cooperation among the government, labor and management is a necessary condition.

In their effort to overcome the recent recession, the Japanese enterprises managed to raise labor productivity by not only integrating their capital and engaging in technological innovation but also through streamlining their operations through drastic personnel reductions and rationalization measures.

The fact that the white paper called for efforts to further raise productivity is expected to invite opposition from labor circles in the future.

As reasons for Japan being able to maintain the highest labor productivity among advanced countries, the white paper cited mechanization and technological development as well as the successful application of "management structure" typical of Japan.

As other characteristics, it cited stable labor-management relations, low absenteeism rate of workers and weak resistance among workers to managements' plans for introduction of new facilities and technology.

On fears expressed by some quarters that raising of labor productivity will threaten employment, the white paper said no serious confusion occurred when major enterprises, especially those in the manufacturing industry, engaged in streamlining efforts in the process of business recovery in the past.

It said in this effect that the workers chose stable employment rather than wages.

On the outcome of last spring's labor offensive in which the nation's four major labor federations demanded a uniform 8 percent wage increase, the white paper said the wage hike won by labor was appropriate when regarded from prices and the payment ability of enterprises.

At the same time, it warned that wage increases surpassing labor productivity will tend to invite price rises and pose a burden to the workers.

It also said efforts should be made to shorten working hours without merely apportioning the results of rise in labor productivity to wage increases.

The white paper also said:

--The effective application-to-opening ratio in 1979 rose to 0.71 although that for workers aged 55 or more registered a low level of 0.12 to 0.33.

--The fixed working hours in 1979 were seven hours and 39 minutes per day and 2,082 hours on an annual basis. The figure comes to 1,982 hours if annual leaves are excluded. The actual annual working hours totaled 2,114 hours.

--If a comparison is made of the actual annual working hours in 1978, the 2,146 hours in Japan was higher than the 1,934 hours in the U.S., 1,957 hours in Britain, 1,799 hours in France and 1,728 hours in West Germany.

--Total amount of wages paid in 1979 rose 6.2 percent over the previous year, slightly below the 6.4 percent for 1978. Real wages, however, rose 2.5 percent, virtually the same as in the previous year. The wage costs in the manufacturing industry recorded a sharp 4.2 percent drop due to the drastic rise in labor productivity.

CSO: 4120

ECONOMIC

JUNE IMPORTS SHOW DECLINE, EXPORTS GO UP

Imports Decline

OW141055 Tokyo KYODO in English 0756 GMT 14 Jul 80

[Text] Tokyo July 14 KYODO--Imports in June totaled yen 3,056 billion, a decrease of 13.4 percent from the previous month, showing stagnancy in Japan's import trends, the Ministry of International Trade and Industry (MITI) announced Monday.

Compared with the same month last year, the June imports gained yen 1,180 billion, an increase of 62.9 percent but the growth rate was the smallest so far this year, MITI said.

In dollar terms, the licensed imports, an indicator of import trends for a few months ahead, were dollar 12,909.4 million, down dollar 1,049 million or 7.5 percent from May and up 49.5 percent over a year ago.

Reflecting stable food prices in world markets and accumulated stocks, imports of foods decreased 0.8 percent over a year ago to dollar 1,401 million, MITI said. It was the fourth consecutive monthly drop in food items.

Imports of raw materials and fuels rose 78.7 percent and manufactures increased 14.3 percent.

Areawise, imports from developing countries remained high with a 72.7 percent jump, but the growth was the smallest so far this year.

MITI also said the imports in the January-June period registered dollar 81,588 million, an increase of 56.3 percent over the same period last year.

The imports in the first half of this year increased by 13,561 million, or 19.9 per cent over the July-December period last year.

Itemwise, raw materials surged 92.6 percent and manufactured goods rose 16.2 percent, while foods edged down by 2.5 percent, MITI said.

Exports Up

GW141059 Tokyo KYODO in English 0742 GMT 14 Jul 80

[Text] Tokyo July 14 KYODO--Japan's exports in June totaled yen 2,645.1 billion, in terms of export declarations certified by foreign exchange banks, up 39.4 percent from a year earlier, the Ministry of International Trade and Industry (MITI) announced Monday.

In dollar terms, validated exports in the month totaled dollar 11,173.41 million, up 28 percent from the like month of 1979.

The validated exports, adjusted for seasonal variations, were up 8.3 percent in yen terms from the previous month, whereas the exports were down 0.5 percent in dollar terms.

Validated exports in the first half of the year totaled yen 15,291.3 billion (dollar 62,834.74 million), a sharp 46.7 percent gain (up 23.3 percent in dollar terms) from the year-earlier level.

Exports in the first quarter (January-March) of the year were up 45.6 percent (up 19.5 percent in dollar terms) from the like period of the previous year, and those in the second quarter up 47.7 percent (27.1 percent on a dollar basis).

Itemwise, June exports of cement, cameras and plastics on a dollar basis sagged from the year-before levels, whereas those of most other items topped the year-earlier figures.

Ships in dollar terms were up 93.9 percent from a year earlier, motorcycles up 70.6 percent, bicycles up 69.4 percent, cars up 32.4 percent. Tape recorders were up 66.7 percent, chemical fertilizers up 53.6 percent.

Exports to West Europe, West Asia and the Communist Bloc recorded a considerable growth, and exports to other areas rose moderately.

Reflecting the recession in the United States, export contracts for steel products, chemicals and textiles have begun showing a subtle change, MITI noted.

The ministry forecast that validated exports in July-September would continue the uptrend. It added, however, exports may slow down in percentage growth in subsequent quarters.

CSO: 4120

ECONOMIC

FINANCE MINISTRY REPORTS TRADE DEFICIT IN JUNE DECLINED

OW150801 Tokyo KYODO in English 0747 GMT 15 Jul 80

[Text] Tokyo July 15 KYODO--Japan's trade deficit narrowed in June from the previous month with exports hitting an all-time high, the Finance Ministry announced Tuesday.

The deficit figure was dollar 1,018 million on a customs clearance basis compared with dollar 1,843 million in the red in May. A year before, there was a surplus of dollar 241 million.

May exports registered a record of dollar 11,002 million, up 26.9 percent from a year earlier, while imports soared 42.5 percent to dollar 12,020 million. The previous monthly high for exports was dollar 10,872 million recorded last December.

The figures are preliminary and may be revised later.

Exports are calculated on a free on board basis and imports on a cost, insurance and freight basis.

In yen terms, exports increased 27.7 percent to yen 2,433 billion, while imports skyrocketed 43.6 percent to yen 2,662 billion, leaving a deficit of yen 228 billion against a yen 53 billion surplus a year before.

Of the exports, cars and other automotive vehicles hit a record high of 533,143 units, worth dollar 2,015 million. The previous high for the number of cars was 528,000, recorded the previous month.

Among major imports, crude oil, oil products and coal accounted as a group for 49.1 percent of the total.

Crude oil deliveries carried an average price tag of dollar 33.45 per barrel, a rise of 3 percent from the previous month and a 93.5 percent jump from a year before.

The steep price hike for oil pushed the import cost for the group by 96.8 percent to dollar 5,906 million.

The surplus with the United States rose to dollar 667 million in June from dollar 586 million a year before and that with the nine-nation European Community jumped to dollar 797 million from dollar 399 million.

On a half year basis, the merchandise trade deficit widened to dollar 10,815 million during the first half of this year from a dollar 6,545 million deficit in the previous half. In the first half of 1979 the deficit was 1,096 million.

Exports in the January-June period totaled dollar 58,842 million, up 22.2 percent over a year before, and imports dollar 69,657 million, up 41.5 percent.

Japan recorded a dollar 2,823 million surplus in trade with the United States in this year's first half, compared with a dollar 2,625 million surplus a year before.

The surplus with the EC skyrocketed to dollar 3,721 million from dollar 237 million.

CSO: 4120

ECONOMIC

'KYODO' SURVEYS NATIONAL EMPLOYMENT OPPORTUNITIES

OW201045 Tokyo KYODO in English 1029 GMT 20 Jul 80

[Text] Tokyo July 20 KYODO--Chances appear brighter next spring for employment of students who will graduate from universities, colleges and senior high schools, reflecting continuing good business prospects.

Business enterprises officially send job offers to individual schools on August 1 in their campaign to recruit students who are to graduate next spring. Schools announce the offered jobs in the campus from September 10.

According to a survey of 125 major enterprises conducted by KYODO News Service as of July 19, 70 percent of companies are preparing to hire school graduates. This shows businesses are making employment plans earlier this year than last season.

A Tokyo-based recruitment research center predicts that major firms listed on stock exchanges will employ "one out of every three" university graduates on the average next spring, roughly an increase of 20 percent over their hiring of graduates this spring.

In the spring of 1976, such employment dipped to "one out of every five" graduates due to recession.

This trend improved up to "one out of every four" this spring.

The stock exchange-listed enterprises which have already made recruitment plans intend to hire more than 30 university students each on the average, according to a recruitment research center survey in mid-July. This compared with 26.3 students the year before.

However, these enterprises plan to tighten their screening of job applicants in an effort to get the best possible graduates, because they are increasing hirings after a long period of recession.

The basic materials industries, such as steel, nonferrous metal, textile and chemical industries, show a positive employment policy for school graduates, the KYODO survey indicates. Steel and shipbuilding firms will

resume the employment of blue-collar workers from senior high school graduates for the first time in five years.

Automakers, pharmaceutical and electric appliance makers also plan to increase such employment, centering on graduates from techno-engineering faculties.

Suntory Ltd., a major whiskey distiller, plans to hire more young technological workers in preparation for starting production of pharmaceuticals.

In contrast, tertiary industry firms, like housing, snack-type restaurants and airlines, are generally tightening their new employment due to slack business.

Fujiya Confectionery Co. and Morinaga and Co., another confectionery firm, are likely to hire no school graduates next spring. They hired none this spring.

CSO: 4120

SJAC TO ACTIVATE TECHNICAL CENTER FOR THE NINETIES

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 pp 1-2

[Text]

The Society of Japanese Aerospace Companies (SJAC) will activate an Advanced Aircraft Technology Development Center (tentative English name) in mid-July to concentrate systematic efforts of the industry on developing technology that will be required for advanced aircraft of the 1990s. According to present plans, Prof. Hidemasa Kimura of Nihon University, will be appointed director of the center. Under him will be a planning committee, 21 members of which will be selected from executives of aerospace companies and researchers working for national laboratories.

Research and development programs will be discussed and selected by the planning committee. With approval of the director, selected subjects will be assigned to appropriate companies. The selected company will then become the central force to promote the assigned program. Technical knowhow and patent rights gained from programs of the center will belong to SJAC.

CSO: 4120

ADVISORY GROUP RECOMMENDS FLYINGBOAT DEVELOPMENT

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 pp 2-3

[Text]

An advisory group will soon recommend the government to promote development and utilization of flyingboats, projecting operation of 147 flyingboats by 1985 in Japan.

The 20-member study group, headed by Prof. Hiroshi Nakaguchi of Chiba University, has prepared the recommendation for presentation to the Aircraft and Machinery Industry Council of the Ministry of International Trade and Industry (MITI) in response to the council's interim report on aircraft industry policy submitted last August. The group has studied designs of a flyingboat service system, marketability, operational plans and other matters since last November.

According to the recommendation, flyingboats will be designed to cover transport to and from local areas not served by existing aircraft, expressway and high-speed railway transport systems. They will contribute to development of outlying communities and industry as well as developing countries.

In 1985, 147 flyingboats will serve 127 domestic routes covering about 10 million potential users of 4,000 million passenger kilometers. They will use 87 airports, of which 40 will be on water. Although the world's potential demand for flyingboats is estimated at 800 aircraft, production of 350 to 500 aircraft will be possible in the near future. In that case, flyingboats would have a ¥600,000 million to ¥1 trillion market. Japan's domestic market as part of the world market will be bigger than the Boeing 767 market estimated at $1,000 million.

The planned flyingboat in the recommendation is of a type which can connect existing onshore airports with new offshore airports. Seating capacity is 30 to 50, and its weight 14 to 21 tons. Necessary runway length for the flyingboat will be 800 meters on the ground or 1,000 meters on water. About 330 areas are designated for offshore airports in Japan. The range will be 500 to 1,200 nautical miles for both domestic and overseas operations.

The recommendation points out the economical advantages of flyingboats, explaining construction and maintenance costs for offshore airports will be less than those for onshore airports although development and operational costs for flyingboats may be slightly higher than other aircraft.

Aircraft makers and airlines will be reluctant to develop and utilize flyingboats as they will have to raise enormous amounts of capital in the initial stage. However, the recommendation says, this problem can be solved by establishment of leasing companies covering local transport networks, pilots, maintenance and other necessary services.

Funds for development of flyingboats and construction of offshore airports over five years are estimated at ¥37,000 million. The recommendation says this amount and 300 engineers will be able to establish technologies covering flyingboat structure to airport control systems.

It also calls for establishment of an efficient price mechanism, including airport charges and fuel taxes, to push domestic flyingboat demand; governmental financial assistance and tax incentives for absorbing development and operational risks; studies on joint development with such nations as Canada and West Germany; and cooperation with Indonesia, Brazil and other developing countries in operation of such aircraft.

CSO: 4120

OVER 100 ORDERS PLACED FOR KHI-MBB BK-117 HELICOPTERS

Tokyo JPRS AVIATION REPORT-WEEKLY in English 2 Jul 80 pp 3-4

[Text]

Orders for the BK-117 helicopters now under joint development by Kawasaki Heavy Industries Ltd. (KHI) and MBB have exceeded 100 since they started receiving orders at the end of 1979.

KHI revealed June 18 BK-117 orders now total 104, of which MBB received 84 from North America and Europe and KHI 20 from Asia and Australia.

As a new market, KHI is considering China, where BK-117s are expected to be useful in offshore oil development. On the domestic scene, its sales drive is directed to the government sector, including the Defense Agency and the Fire Defense Agency. Domestic orders look promising.

The medium-size helicopter with eight to 12 seats features multiple mission capability and high maneuverability. In their collaboration, KHI undertakes development and production of fuselages, transmissions and engines while MBB is in charge of main rotors. Development has entered the final stage with the US Federal Aviation Administration's (FAA) type certificate expected to be given to the BK-117 next summer.

Delivery of the helicopters will begin around the end of 1981 with a price of about ¥200 million per aircraft. The initial-stage production is projected at 10 aircraft per month. Although the BK-117 is likely to compete with several foreign helicopters, including the US Bell 220, KHI expects orders for 1,000 helicopters from all sources in the 1980s.

CSO: 4120

NEC TO EXPAND MISSILE DIVISION

Tokyo JPRS AVIATION REPORT-WEEKLY in English 2 Jul 80 p 4

[Text]

Nippon Electric Co. (NEC) plans to expand its missile division to increase sales four times over the next five years to ¥10,000 million. The division's sales have been averaging ¥2,000 to 3,000 million annually.

NEC's missile division has been supplying electronic equipment for missile systems ordered by the Japanese Defense Agency (JDA). Unlike Toshiba or Hitachi, NEC has been involved in the missile field as a subcontractor. It has helped the GSDF Model 64 wire-guided antitank missile program for which KHI is the prime contractor. NEC developed and produced electronic equipment for the ATM and the ground guidance system.

This year, NEC will start production of electronic equipment for the GSDF's Model 79 wire-guided antiship/tank missile system for which KHI is the prime contractor. The company is also subcontracted to develop the tracking system for a new medium-range antitank missile for the GSDF. In the field of air-to-air missiles, NEC has been working under a contract from MHI since FY 1975 for development of the tracking system for an advanced air combat missile for the ASDF.

Work on these programs will enter full swing in or around FY 1985, with projected sales of ¥10,000 million. NEC plans to aggressively promote its missile division to realize projected sales with additional contracts for such missiles as the replacement for the Nike-J surface-to-air missile system currently under study by JDA.

CSO: 4120

SPECIAL COMMITTEE ON Y-XX TO BE INAUGURATED

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 p 2

[Text]

The Policy Subcommittee of the Aircraft Div., Aircraft and Machinery Industry Council, MITI, held a meeting June 27 and deliberated future policy pertaining to the Y-XX next-phase commercial aircraft development program.

It was decided that a special committee on the Y-XX will be inaugurated within the Society of Japanese Aerospace Companies (SJAC), and that Iwao Shibuya, Managing Director, Fuji Heavy Industries; Kenji Ikeda, Managing Director, Mitsubishi Heavy Industries; Teruaki Yamada, Managing Director, Kawasaki Heavy Industries; and Kenji Uchino, Vice Chairman, Civil Transport Development Corporation will be appointed members of the special committee.

It was also decided that Japan will promote its own market surveys and preliminary design studies of the Y-XX with the new special committee taking initiative, and that it will dispatch Shibuya, Ikeda and Yamada to Fokker Aircraft and Airbus Industrie toward the end of July for detailed discussions with leaders of the two European companies on joint market surveys of the Y-XX class aircraft on a nonbinding basis.

The special committee on the Y-XX will entrust the actual market survey work with CTDC with ¥25 million which will be provided by MITI.

The policy subcommittee agreed to request the government for funds in FY 1981 for the Y-XX development program.

Shohei Kurihara, Director-General, Machinery and Information Industry Bureau, and Noboru Hatakeyama, Director, Aircraft and Ordnance Section of the same bureau, MITI, attended the meeting as government representatives.

CSO: 4120

COUNTRY UNABLE TO RESPOND TO MDC'S ATMR PROPOSAL

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 p 4

[Text]

The Japanese aircraft industry cannot at present accept McDonnell Douglas Corp.'s (MDC) proposal on joint development of Advanced Technology Medium Range (ATMR) aircraft, according to industry sources.

The proposal was made when Charles M. Forsyth, Executive Vice President, Douglas Aircraft Co. Div., MDC, visited Japan late in May. He discussed joint design, development and production of the ATMR aircraft with representatives of MHI, KHI, FHI, MITI, CTDC and SJAC, and asked them to reply by July 1.

The Japanese aircraft manufacturers intend to decide on the Y-XX medium-size civil airliner in August considering proposals from other European and American manufacturers on a 130-to-150-seat aircraft. Therefore, they may not accept the MDC proposal on the ATMR, whose seating capacity of around 180 is too large in their mind. Depending on the future market research regarding the Y-XX, however, a 180-seat aircraft may be studied. In that case, the ATMR project would become subject for consideration. This is the reason they are reluctant to accept the MDC proposal at present.

CSO: 4120

MELCO QUICKENING PREPARATION FOR AIM-7F PRODUCTION

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 pp 4, 5

[Text]

Mitsubishi Electric Corp. (MELCO) is pushing preparations for license production of the AIM-7F radar homing air-to-air missiles which the ASDF will procure for the F-15 fighters from FY 1980 started last April.

MELCO was named prime contractor for the AIM-7F production by the JDA early last May. The firm manufactures the AIM-7E AAMs for the F-4EJ fighters.

Raytheon, the licensor, is expected to assist MELCO under their technical cooperation contract as soon as the US government approves the contract. Japanese government approval was given early in June.

In the cooperation pact, the US firm will provide MELCO with data packages and send engineering teams here to help production get under way as quick as possible.

MELCO's shift to AIM-7F production from AIM-7E has started. Although equipment for guidance packages must be built, equipment being used to manufacture AIM-7Es can be switched to AIM-7F output. Flight test equipment can also be utilized after partial modification.

The ASDF plans to procure 80 to 90 AIM-7Fs for the first F-15 order placed in 1978.

CSO: 4120

SJAC MISSION REPORTS ON EUROPEAN AIRCRAFT INDUSTRY

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 pp 2-4

[Text]

The Society of Japanese Aerospace Companies (SJAC) has prepared an official report on the European aircraft industry of its fact-finding mission sent to Europe last April. It says the European aircraft industry is more advanced than the Japanese in the fields of overall technology and experience, while the Japanese industry has higher productivity in sales and assets per employee.

This report, detailing the present and future status of the European industry's international collaboration in aircraft development and production, provides useful data for Japan's aircraft industry promotion measures and international cooperation.

It comprises seven chapters---(1) Summary, (2) Trends of the European aerospace industry, (3) Market prospects, (4) Future projects, (5) Research and development of advanced aircraft technology, (6) Long-term prospects of aerospace industries, and (7) Aircraft industry promotion measures of major nations.

According to the SJAC report, Japan's aircraft industry sales in 1978 were ¥280,000 million, compared with about ¥1,120,000 million of France, ¥1,090,000 million of Britain, ¥700,000 million of West Germany, ¥220,000 million of Italy, ¥83,000 million of the Netherlands, and ¥19,000 million of Spain. Total sales of the six European countries amounts to about ¥3,230,000 million, about 12 times more than Japan's and about 90 percent less than the United States.

European aircraft manufacturers have comprehensive arrangements for cooperation in military aircraft production.

they supply each other with mass-produced components and carry out assembling, flight tests and maintenance support for their respective governments. Overall aircraft technology and manufacturing experience in Europe is more advanced than in Japan, although Japan has some individual techniques superior to Europe.

European makers can obtain most processed aircraft materials within Europe as sufficient suppliers exist in the region. Their equipment is continuing to expand. Two firms plan to invest ¥70,000 million to ¥80,000 million each in plant and equipment over the next four to five years and three ¥15,000 million to ¥40,000 million each.

The Japanese industry's management efficiency and productivity are as high as France and West Germany and superior to other European nations. For example, Japan's sales per employee total more than ¥11 million, compared with about ¥10.8 million in France, ¥11.9 million in West Germany, ¥5 million in Britain, and Italy's ¥6 million. A similar tendency is also seen in assets per employee.

European manufacturers expect development of 100-to-160-seat civil airliners for the future as Japan does. They estimate a market of such airliners after the middle of the 1980s at 2,000 aircraft.

Most European nations extend government assistance to their aircraft manufacturers. A national consensus is established on the importance of such assistance because development of the aircraft industry is believed to not only contribute to national prestige and defense, but also promote technical advancement, exports and employment.

The 1978 status of European aircraft manufacturers contained in the SJAC report follows:

	Employees (A)	Sales (¥100 m.)	Yearend Fixed Assets (B) (¥1 m.)	B/A (¥1 m.)
(Europe)				
British Aerospace	70,160	3,935	529	0.8
Aerospatiale	33,152	4,845	658	2.0
Dassault	15,183	2,905	490	3.2
MBB	21,500	2,050	466	2.1
VFW	8,700	545	149	1.7
Aeritalia	9,600	540	158	1.4
Fokker	7,425	885	117	1.6
CASA	8,000	225	-	-
Rolls-Royce	56,600	3,220	438	0.7
SNECMA	18,300	1,170	615	2.7
(Japan)				
Eight firms	17,300	2,448	460	2.6
(U.S.)				
Boeing	81,200	14,498	1,228	1.5

Note: Yen figures are calculated on the basis of the 1978 average exchange rate and year-end rate of the IMF. The Eight Japanese firms are Mitsubishi Heavy Industries, Kawasaki Heavy Industries, Fuji Heavy Industries, Ishikawajima-Harima Heavy Industries, Japan Aircraft Mfg., Shin Meiwa Industry, Showa Aircraft, and Shin-Nihon Aircraft Maintenance.

CSO: 4120

MATSUSHITA TIES WITH BELL & HOWELL ON VIDEO PROJECTOR

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 p 2

[Text]

Matsushita Inc. has announced that the company has concluded an agreement with Bell & Howell on sales of its airborne video projector, under which Bell & Howell will sell the Matsushita system to airliners throughout the world except Japan, China, and the Soviet Union. The video projector of Matsushita has passed ARINC standards and also meets Boeing requirements.

The market for the Matsushita video projector is promising. It is suitable, according to Matsushita, to five wide-body airliners including the Boeing 747 and 767, McDonnell Douglas DC-10, Airbus Industrie A300 and the Lockheed L-1011.

Matsushita will produce the video projector and Bell & Howell will market it together with video tapes. This is the second time for a Japanese system to be put on the world market. Earlier, Sony Corp ation tied up with Trans. Com, Div.-Sundstrand Data Control Inc. on its video projector.

Besides the video projector, Ma sushita has developed an airborne passenger audio communications and entertainment system for Boeing. Delivery of the system to Boeing will begin in the spring of 1981. Matsushita is now developing a cockpit camera and airborne VTR system to meet international standards to expand its market for electronic equipment and systems for airliners.

A video projector system Matsushita developed jointly with JAL is different from the one to be marketed by Bell & Howell. The former uses the Schmidt system instead of a cathode ray tube for projection. JAL has already adopted the former and 59 units are in operation aboard 16 Boeing 747SRs on JAL's domestic routes.

CSO: 4120

ECONOMIC

PARTICIPATION IN 767 DEVELOPMENT PROGRAM DETAILED

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 pp 5-6

[Text]

The Civil Transport Development Corp. (CTDC) has prepared a report of wind tunnel, structural, systems and noise tests held in FY 1979 ending last April for the Boeing 767 development program. Details follow:

(1) Wind tunnel tests

Aerodynamic tests were carried out by using a special system at Boeing's wind tunnel to examine boundary-layer characteristics of the tail. Based on the test data, a change in design of the tail was applied to the existing tail model for partial modification.

(2) Structural tests

a) Structural tests to determine fuselage structure: Fatigue tests were carried out on outer skin and longeron joints by using a fuselage panel as large as the practical fuselage. Data were collected on effects related to aircraft fatigue of the structure, material and processing technology.

b) Production and tooling technology tests: Tests were conducted to establish new production and tooling technology for the front fuselage, middle fuselage, rear fuselage, main wing ribs and main wing fairing, which Japan is to design and develop. These tests covered production conditions, tooling accuracy and tooling processes for each of the manufacturers participating in the program.

(3) Systems tests

a) Development of honeycomb sandwich components (Yokohama Rubber): An appropriate fiber combination was chosen for developing the preplug consisting of fiber materials, which are designed to set at 250 degrees Fahrenheit. The preplug was combined for evaluation tests.

b) Research into technology for designing ultra high tension steel landing (Sumitomo Precision): Computers were used for analysis of a rough runway taxing load and shock absorber's performance which have a major bearing on landing gear design. Material tests were conducted regarding 300M steel.

c) Flight actuator research (Teijin Seiki): Two power control units set up in parallel were evaluated under various circumstances. The units, including fail-safe servo valves, were fabricated the previous fiscal year.

d) Research into liquid crystal display system (Tokyo Keiki): An engineering model was fabricated for evaluation to further increase accuracy of the display system on the basis of data collected the previous fiscal year.

e) Aircraft integrated data system research (AIDS) (IHI): Measures were studied to demonstrate engine data analysis technology vital to the engine AIDS system.

f) Research and development of inertial navigation systems (Hokushin Electric, Tokyo Koku Keiki): A navigational computing component of the strap-down inertial navigation system was designed, and a device using a micro computer was fabricated. Performance tests were conducted on angular velocity and acceleration sensors whose accuracy and stability had been improved.

g) Development of air chiller for the galley (Shin-Nihon Aircraft Maintenance): A system for supplying the galley with chilled air for refrigerating food was developed and tested.

(4) Noise

a) Jet noise: A new calibration system was designed and fabricated to examine thrust characteristics of nozzle configurations for reducing jet noise. As a result, basic

data about a calibration system were obtained to help clarify thrust calibration jet mixing processes.

b) Nacelle noise: Basic data about fan noise and fuselage noise absorbing characteristics were obtained in the National Aerospace Laboratory's (NAL) wind tunnel regarded as a nacelle duct model. It was found noise of 1 and 3 kilohertz comes from the tip of the fan's blades. This provided design data useful for decreasing nacelle noise.

CSO: 4120

BRIEFS

ECONOMY'S GROWTH IN 1980--Tokyo July 16 KYODO--Mitsubishi Research Institute, Inc., projects a 11.6 percent nominal and 4.5 percent real growth for the Japanese economy in fiscal 1980 ending March 31, 1981. The figures are revised ones from 11.3 percent nominal and 3.5 percent in real terms, published late last year. The think tank assumes that six other advanced economies will suffer a 0.9 percent decline in real terms in 1980 and that crude oil import prices will average dollar 33.8 a barrel in fiscal 1980. It also assumes the Bank of Japan will reduce the official discount rate from present 9 percent per annum to 6.5 percent and that the exchange rate will average yen 216.95 to the dollar. The institute says that the economy will continue to expand under the support of active industrial investments in the first half through September. However, the growth will drop below zero in the latter half due to slow personal consumption and stagnant exports. The institute estimates Japan's balance of payment deficits on the current account at dollar 13.4 billion for fiscal 1980. The think tank also projects the economic growth for the following fiscal 1981 at 8 percent nominally and 3.5 percent in real terms. In that year, inflation will decline, thus helping to strengthen personal consumption and expand industrial investments, it says. [Text] [OW160347 Tokyo KYODO in English 0236 GMT 16 Jul 80]

ECONOMIC GROWTH FORECAST DISPUTED--Tokyo July KYODO--The Economic Planning Agency (EPA) said Friday that Japan's economic growth will not decline so far as predicted by the Organization for Economic Cooperation and Development (OECD). In its semi-annual economic outlook, published in Paris Friday Japan time, the OECD predicted that Japan's real economic growth rate will fall to about 3.75 percent in mid-1981, because Japan will not be able to bring inflation under control until the latter half of this year. EPA officials said the prediction does not seem to reflect the real state of the Japanese economy. Consumer price rises will reach their peak in a month or two and both month-to-month and year-to-year increase rates will begin declining after this autumn, they said. As a result, they said, consumer spending, which accounts for about half of Japan's gross national product (GNP), is expected to increase and fiscal spending on public works projects will pick up in the latter half of this year from the present low level. In addition, corporate plant and equipment investments are

remaining brisk, although exports are decreasing steadily of late, the officials said. Thus, Japan's real economic growth will not decline as fast as the OECD prediction, they noted. They added Japan will be able to achieve the official economic growth rate of 4.8 percent in fiscal 1980, ending next March, without fail. [Text] [OW101303 Tokyo KYODO in English 1236 GMT 10 Jul 80]

CONTINUED PRICE STABILITY URGED--Tokyo July 11 KYODO--The Economic Planning Agency said Friday that the present policy of attaching importance on price stability and promoting overall price countermeasures must be continued although the nation's business was improving. In a monthly economic report, announced by Director General Keijiro Shoji of the EPA at a meeting of cabinet ministers concerned with economic affairs, the agency noted that production and shipments in some sectors of the manufacturing industry were slowing down. It also said the effects of wholesale price increases were continuing to be seen in the consumer price sector although wholesale prices were showing signs of calming down due to the rise in the yen's value and softening of overseas commodities markets. The report said that the economy was expanding steadily due to increase in exports and plant and equipment investments despite the slowdown in the rate of increase of production and shipments. Although the current account of the international payments was continuing to show a deficit trend, it said the red ink amount was declining recently. In view of the effects of the wholesale price increase on consumer prices, however, the report said the government will continue to lay stress on price stabilization and promote overall price countermeasures while paying attention to maintenance of business and stabilization of employment. On the situation overseas, the report noted that a downturn in business in the U.S. has become increasingly conspicuous and the tempo of economic expansion in Western European countries has slowed down. [Text] [OW110039 Tokyo KYODO in English 0032 GMT 11 Jul 80]

KEIDANREN URGES SPENDING CUTS--Tokyo July 11 KYODO--Japanese business and financial leaders Friday urged the government to further cut spending in the 1981 fiscal year to help restore state fiscal health. The appeal was made when leaders of the Federation of Economic Organizations (Keidanren) and officials of the Finance Ministry met at the Palace Hotel in Tokyo. The ministry officials, including Vice Minister Takashi Tanaka, requested industry's cooperation in restructuring the budget. The business leaders, including Keidanren President Yoshihiro Inayama, pointed out that the current deficit in the national budget resulted from the past economy-stimulating policy and excessive social welfare spending. They also cautioned against big public spending when the economy becomes stagnant. They also noted that the Finance Ministry is already in trouble over large national bond issues. [Text] [OW110623 Tokyo KYODO in English 0604 GMT 11 Jul 80]

PAPER ON MERCHANT FLEET--Tokyo July 19 KYODO--The government should take appropriate measures to halt the decline in the competitiveness of Japan's merchant fleet, according to a white paper the Transport Ministry made public Saturday. New ships totalling 3 million gross tons should be built

in a year, according to the fiscal year 1979 report. Japanese ships with high international competitive power, central to the merchant fleet, should be developed over a long term, it said. The report said operating profits of 40 Japanese major shipping companies in fiscal 1979 increased by 30 percent over the previous fiscal year and ordinary profits jumped to yen 90.3 million from the deficits of yen 16.6 billion in the previous fiscal year. However, the report also predicted that shipping industry business may get worse again because of business recession in the United States and Europe. Japanese merchant ship bottoms in mid-year 1979 increased by 106 in ship number over the previous year but decreased by 2.3 million tons gross in gross tonnage. Japanese merchant ships' loading rate was 52.3 percent for export and 73 percent for import in 1979, up 3 and 0.5 points over the previous year, respectively. The report also called for self-help efforts by both management and labor of shipping companies, as well as the government's aid, to recover Japanese ships' competitive power as future overseas shipping policy. [Text] [OW191013 Tokyo KYODO in English 0929 GMT 19 Jul 80]

BANK REPORTS ECONOMIC TRENDS--Tokyo July 11 KYODO--The undertone of the domestic economy is still strong but industrial production and shipments have begun to show signs of slowing down, the Bank of Japan said Friday. Supported by strong corporate capital spending, rising exports and brisk consumer spending, the Japanese economy is still in a good shape as a whole with final demand remaining at a high level, the central bank observed in its monthly economic report. But recently, it said, moves to adjust inventories are becoming increasingly conspicuous in some sectors of the economy, reflecting such factors as the recent slump of the international commodity market and growing signs of an export decline. As a result, production and shipments of producer goods and construction materials have begun to decelerate, the bank noted. Inventory adjustments are expected to continue for some months, it added. [Text] [OW111045 Tokyo KYODO in English 1035 GMT 11 Jul 80]

CSO: 4120

ASSISTANCE SYSTEM FOR RESEARCH, DEVELOPMENT OUTLINED

Tokyo KENKYU KAIHATSU JOSEI SEIDO 1978/1979 in Japanese 15 Jul 80 pp 1-9

[Text] Chapter 1. Outline of Assistance System for Research and Development [Compiled by MITI, Technology Promotion Division]

Preface

The progress of past technical innovation in Japan has greatly depended on the introduction and assimilation of foreign technologies. The production technology of our national industries is generally on the way to reaching standards similar to European countries and the U.S.A. Nevertheless, it is still considered greatly handicapped in the area of creativity to produce unique new technologies and new manufactured products, in other words, in the area of research and development. It is needless to say that the role to be played by technical innovation will be an extremely important key for the future of the Japanese economy and industry. Especially, it is imperative that the capacity for technical development be reinforced much more than the present level, in order to solve important problems related to the national economy such as intensifying knowledge of the industrial structure, solving resource and energy problems, improving national living standards, enriching social welfare, creating a better natural environment, etc., and also to contribute to the advancement of the international economic society as a technologically advanced nation.

The Agency of Industrial Science and Technology of the Ministry of International Trade and Industry (MITI) has been actively involved in promoting leading research as an initiative taken by the government, through experimental research by various affiliated institutions, the large project system, Sunshine Programs, etc. It has also created various policies to forcefully stimulate the research and development activities conducted by private business and enterprise, in order to promote technologies which accomodate the conditions described above.

Precisely, the following measures are in practice: "Important Technology Research and Development Expense Subsidy System: for subsidizing research and development, "Tax Credit System for Additional Experimental Research Expenses" for preferential tax treatment for the spending of research and development expenses, and "National Technology Promotion Fund Loan System of the Japan Development Bank" for commercialization of new technologies resulting from research and development, etc.

In the future, it is likely that these various systems will be further expanded in some aspects. However, in this chapter, overall administrative assistance systems for research and development conducted by private business and enterprise, including the various assistance policies which have been enforced in the past, will be explained in respect to purpose, basic concept, significance and correlation of each system, taking into consideration the relation to the entire policy enforcement structure.

1.2 Structure of Research and Development Assistance Systems

To enhance the knowledge of private business research and development assistance systems, the outline of the structure of these systems, as a start, will be reviewed.

First of all, if assistance systems are reviewed in correspondence with the measures of the policy, the granting of a subsidy is given for research and development expenses, preferential tax treatment is provided for research and development expenses and for research and development machinery and equipment, and special financial measures [i.e. loans, etc.] are provided for equipment funds for commercialization of new technologies and new products.

Next, if assistance systems are reviewed in correspondence with the stages of research and development progress, the following two assistances are rendered: Assistance for the research and development stage (of course, usually R and D starts with basic research, but frequently applications research and others that follow it are primarily the main constituents in private business. Consequently, the assistance policy also focuses on application research and subsequent development research); Assistance in the commercialization stage which follows the R and D stage (Discrimination between the two is, strictly speaking, difficult. However, this assistance is generally given for stages after R and D. *For instance, test production of a commercial model may sometimes precede commercialization, and this stage is included in this category).

Furthermore, the relation of the above described two systems can be clarified substantially by the following views. Specifically, subsidies and preferential tax treatments are given for the research and development stage while loan services are rendered in the commercialization stage.

Summarizing the relations described above, a separate table has been prepared. Incidentally, in this table, various measures which will be described in the following are almost exhaustively listed. Please use this table as a reference to understand the following explanation.

1.3 Purpose and Outline of Each Assistance System

In the following, purpose, outline, problems and correlation of each assistance system for R and D activities by private business and enterprise will be explained according to the means of the policy.

1.3.1 Granting of Subsidies for R and D

As a system for granting subsidies for R and D, there are many types provided by each governmental ministry and agency. Among them all, the subsidy system of the MITI is the largest in size and has achieved excellent results to date. This system renders assistance to "Unexplored Innovative Technology" studied in objective basic research field; "Application Research" for application of basic research results to mining and manufacturing; "Industrialization Tests" conducted to obtain conditions and data necessary for industrialization when basic and applicational research alone cannot adequately provide them; "Machinery and Equipment Test Building for designing and constructing test models of new machinery and equipment; and "Commercialization Development" to demonstrate the test results in a minimum commercial size for commercialization. Administrative procedures for this service is prescribed as follows: Announcement of concrete themes, "Important Technology R and D Themes" especially for the fields which urgently require R and D promotion from the point of industrial policy; subscription for projects pertinent to the themes; and granting of subsidies to the accepted projects.

This process aims especially at soliciting businesses to carry out projects to be urgently promoted in the nation as a whole, although the research and development of the project will involve many risks, by granting subsidies for the project research by private business and enterprise so that any deficiency of research and development funds shall be filled in. Particularly, the objective of presenting R and D themes is to gear private business interest toward policy goals. Incidentally, the practical application of the subsidy system is naturally associated with anxiety over keeping business secrets relating to the R and D projects, and connected with various regulations that govern the accounting system attendant on national fund outlays. However, the latter is inevitable when accepting a grant of government funds. Also, it seems unnecessary to worry over keeping business secrets since the administration attends to the matter scrupulously.

This system, newly face-lifted conventional "Mining and Manufacturing Technology Experimental Research Subsidies," was started in fiscal year 1968. The points changed compared to the past system are an increase of funds, naturally, and new additional themes for R and D projects to be considered for grants, such as "Core Technology Themes." The new system was installed to cope with the recent trends to large-scale R and D and the increase of risks involved in the expansion of the scale, and to contribute to the upgrading of R and D efficiency by awarding larger subsidies on a priority basis to superior large size R and D themes. Specifically, maximal class research and development projects (total research expense of some hundreds of million yen, and a research period of 2-3 years) normally conducted by business and enterprises are positively aided to use them as one of the levers to promote independent technology development.

1.3.2 Preferential Tax Treatment for R and D

Preferential tax treatment for research and development is administered as follows to research and development stage projects.

"Tax Credit System for Additional Experimental Research" started in fiscal year 1977 is rated highly as the most effective tax preferential treatment for R and D stage projects and also as an epocal system. This system aims to encourage private business to spend more for research expenses. The essential part of this system works as follows: When a business increases R and D expense spending in one fiscal year compared to a prescribed period in the past, an amount proportionate to the increase will be subtracted from the tax due from the business concerned. The The objective of this system is to increase the R and D investments by domestic private business and further to allow the business in compliance tax credits so that the money saved by this will be recycled to R and D expenses (Tax credits accordingly are an absolute waiver of tax. In contrast, special depreciation, etc. only allows shorter depreciation than in normal cases, and the tax payment over the entire period will not be changed but only deferred).

While assistance by delivery of subsidies is direct, this system indirectly assists R and D activities, and it is hoped that R and D expenses be increased to promote liberal R and D practice in business. Compared to the subsidy system, private business and enterprise can proceed with their R and D activities freely without the interference of following individual themes presented by the administration and without ever worrying over endangering business secrets. Essentially, the subsidy system is designed to realize certain policy goals by investing government funds in specific projects while this system hopes to realize some free research and development results from private business and enterprise generally by the expansion of R and D expenses. The synergistic effect of the two systems contributes to the promotion of R and D activities.

Other systems which provide preferential taxation treatments for R and D stage projects are: Special "treatment for life-span of depreciable assets (building, machinery and equipment) for R and D (It specifies life-spans for these assets shorter than general assets), special treatment for writing off as a loss contributions to experimental research corporations (If contributions to these corportations meet prescribed conditions, corporations can additionally include, besides the allowable inclusion as a loss of general contributions, an amount equivalent to this as a loss [i.e. doubling the write-off]), special write-off of dues paid to a mining and manufacturing technology research association (We will refer to this organization later) (When a portion of dues received by the association from the members is needed for acquiring specific machinery and equipment for research, the association members can count this as a loss). All of these systems stipulate special treatments for regular taxation for the promotion of R and D activities, intending to give an indirect assistance to research and development.

1.3.3 Financial Preferential Treatment for Commercialization of R and D

Financial preferential treatment is available for commercialization of new technologies and new products. Specifically, funds required for the commercialization of projects which have completed R and D will be accommodated by the National Technology Promotion Fund Loan System for the Japan Development Bank.

The loan system based upon the National Technology Promotion Fund of the Japan Development Bank has been implemented since fiscal year 1968. This system was created by adding a new machinery commercial model-making loan system to the conventional New Technology Commercialization Loan System and the Heavy Machinery Development Loan System of the Japan Development Bank at a special interest rate of 6.5 percent and a special loan limitation (loan limitation was 42 billion yen in fiscal year 1978).

In consideration of the previously described circumstances that private business and enterprise are somewhat reluctant to press forward into the actual commercialization of new technologies and products resulting from R and D due to the great deal of new funds required and technical risks and other risks related to recovery of invested capital and cultivation of markets, this system is provided to improve constructively our national technology standards by smoothly supplying the funds required at a low rate for a long term, for the promotion of the commercialization concerned.

Commercialization and merchandizing of new technolgies and products may appear simple, but their modes are different depending upon the type and status of the business.

First, in case of a typical equipment industry such as the chemical industry, etc., technical development takes the form of developing new manufacturing methods and new products, and new equipment which is adapted to these items will be newly installed for the commercialization of the developed technology.

Secondly, in case of universal machinery of the machinery industry, technical development takes the form of developing new types of machinery. For the commercialization of the products, existing equipment will often be used without modification or alteration instead of laying out investment for new equipment. Consequently, no new equipment funds are required. Nevertheless, a considerable number of test models are produced for trial operations to remodel and improve the products based upon the tryout data before commercializing them as new marketable commodities.

Thirdly, in case of large machinery produced on order from the user, technial development takes the form of developing new machines. For the commercialization of the product, new equipment funds are not especially required as in the second case described above. However, the problem with this is found on the side of the users of the heavy machinery. Users are, in such a case, often reluctant not to place an order due to their lack of experience in using the product and partly due to their distrust in the technical reliability of the product.

In consideration of the circumstances described above, this system provides the following, responding to each business type and status, in order to promote the commercialization of new technologies and products: A low interest rate long-term loan granted to pursuer of commercialization for use as equipment funds in the first case; A low interest rate long-term loan granted to makers of commercialization models to cover the expenses required to make a certain number of test model units necessary to complete the testing of the machine in the second case; A low interest rate long-term loan granted to the users of the heavy machinery for use as a machine purchasing fund. By this measure, various forms of technical and economical risks associated with the commercialization of new technologies and products shall be covered. Specifically, this system can more than adequately assure the amount of funds for commercialization of new technologies which would be hardly considered through normal financial means (setting of fund limit), and it promotes the commercialization of the new technologies by reducing the risks involved with specially favorable loan conditions (maximum preferential interest rate as of May 1978: annual rate of 6.05 percent, but 6.5 percent for commercialization model making). Incidentally, in this system, loans will be made by the Japan Development Bank in accordance with the recommendations by the MITI, and the recommendations will be made fully taking into consideration the association with industrial policy goals.

Furthermore, assistance for the commercialization stage is on a financial basis such as this in contrast to the assistance for the research and development stage which is founded on the subsidy basis. Precisely, assistance for research and development is provided by the granting of subsidies because of the extremely large risks involved and because these activities will not directly lead to the profit of the business, whereas assistance for the commercialization leads to commodities which are highly likely to produce profits, although, in this stage, commercialization risks emerge in place limiting creative risks. Of course, as described previously, loan conditions are more favorable than in normal cases in order to meet with and reduce commercialization risks. Specifically, assistance systems are designed to subsidize a part of the research and development funds for R and D projects and to loan commercialization funds at a low interest rate for commercialization projects.

1.3.4 Assistance System for Joint Research and Development

The above described various subsidy, taxation and loan systems are all direct or indirect assistance systems in repsect to R and D funds or funds to commercialize R and D results. Finally, an institution or organization assistance system established as the "Mining and Manufacturing Technology Research Association system," which is slightly different from all of the above mentioned, will be briefly introduced.

The Mining and Manufacturing Technology Research Association is based upon the Mining and Maunfacturing Technology Research Association Law. The objective of this system is to clarify the operational process and management of results of joint research, and to issue it a corporation status as an association, in order to facilitate joint research. As described previously, preferential tax treatments regarding handling of association member dues, etc. are layed down.

To enhance the efficiency of R and D activities, it is, as a rule, desirable for many parties to join and conduct research from the point of R and D funds, maintenance of research workers and concentration of R and D potential. From this angle, facilitation of joint research is an approach adopted in enforcement of policy for technology development, and this system aims to clarify legally the position of the organization set for this purpose and simultaneously to award preferential taxation treatment.

However, in reality, there are many obstacles in the innocently expressed "desirable pursuit of joint research." For example, in our country, competition among businesses is fervent and very likely to flare into excess competition. This tendency is noticable even in the R and D field. Under these realities, soil to cultivate joint research has not been fully prepared, and R and D is reluctant to familiarize itself with a form of cooperation since it essentially belongs to the top secret area of business. It is an important factor for appropriate and successful joint research implementation to have equally capable (technically and financially) participants in research activities, but such an ideal relation is rare among the businesses in Japan. Even if joint research were successful, usability of the results and the degree of contribution to R and D can hardly be balanced among the participants, which often results in conflicts of interest. Accordingly, joint research among businesses of the same type is not usually successful except when interbusiness unity is considerably well maintained and the above listed obstacles are overcome. Eventually, joint research (more precisely, division-of-labor research) on a theme which requires respective cooperation from businesses among different types can be singled out as attaining relatively significant success. For instance, joint research conducted by the cooperation of raw material makers and product makers that uses it, and by the cooperation of machine makers and users will have a good chance.

Also, an actual problem lies in that joint research that resorts to this system has not been fully put into effect to date, since the benefits of assistance such as preferential tax treatment were not necessarily considered adequate for this system. However, it is still an effective method for joint research to carry out technical development, and it is hoped that the previously described obstacles can be overcome in our country and joint research be properly accomplished in the future.

1.3.5 Post Remarks

In the above, outline, purpose, concept, policy signifnance and correlation of each measure have been explained in respect to the government assistance policy for R and D activities by private business. These systems seem complete at first sight, but, of course, never adequate in quality and quantity. It is anticipated that the assistance policy will be further expanded and strengthened with these various measures as a basis.

Incidentally, this chapter is devoted only to a general discussion for the understanding of the structure of the entire systems. When actually utilizing these systems, we hope that readers use them effectively after becoming fully familiar with the concrete descriptions and procedual explanations presented in Chapter 2 and thereafter.

8940
CSO: 8129/1194

MT-X DEVELOPMENT PROGRAM UNDER DISCUSSION

Tokyo JPE AVIATION REPORT-WEEKLY in English 2 Jul 80 p 9

[Text]

The Japanese Defense Agency (JDA) is expected to decide whether to include the MT-X medium jet trainer development program into its FY 1981 operational plans at a meeting of director-generals of internal bureaus in August.

Working-level views of the internal bureaus will be unified by the end of June, being followed by full-scale consideration in July. They were briefed on the program in May by the TR&DI. If working-level officials favor the program's starting in FY 1981, it will be up to the meeting of director-generals to decide.

Attention is now on coordination between the ASDF and the internal bureaus, including the Defense Policy Bureau, regarding the program because its start in FY 1981 depends on whether the ASDF can obtain the bureaus' approval, according to inside sources.

The TR&DI plans basic and detailed designs of the MT-X for FY 1981-1983, test fabrication of four aircraft for FY 1983-1985 and flight tests for FY 1986-1987 so that the ASDF will be able to acquire the new trainers to replace the T-33A and T-1A/B aircraft. Development costs are estimated at ¥30,000 million.

As to the XF-3 small turbofan engine designed for the MT-X, the TR&DI has been authorized to fabricate five units for tests with ¥4,566 million under the FY 1980 (April 1980-March 1981) budget. It will ask the Finance Ministry to approve funds for fabrication of another five units in FY 1981 because 10 units are necessary for various tests.

The 10 engines for the first test fabrication, being acquired until FY 1982, will be used for bird and ice ingestion tests (one unit), sand ingestion tests (one), over-rotation and high temperature tests (one), flying bed tests (two), operation tests (one) and preliminary flight rating tests (one).

If the JDA decides to adopt the XF-3 engine for the MT-X, the engine program will enter the second test fabrication stage requiring several more units for further tests.

CSO: 4120

NASDA PROGRAMS FOR FY 1980

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 p 9

[Text]

The National Aerospace Development Agency of Japan (NASDA) has decided to promote the following programs during FY 1980:

Efforts will continue to develop a number of satellites including ETS-III and the ETS-IV engineering test satellites, the MOS-1 maritime observation satellite, the GMS-2 geostationary meteorological satellite, and CS-2a and CS-2b communications satellites. Development of the BS-2a and BS-2b broadcasting satellites will also start. Research will begin on the GS-1 earth resource survey satellite.

Programs for rocket motors cover the N-I rocket for launching of the ETS-III and the N-II rocket for ETS-IV, GMS-2, CS-2 and BS-2 satellites. The first stage of the N-II rocket will be placed in local manufacture. Small rockets will be developed for tests with new materials. The H-I rocket that will use liquid oxygen-liquid hydrogen propellant to launch geostationary satellites each weighing over 500kg will also be developed.

Tanagashima Space Center will be modernized with improved test, control, and telemetering facilities.

During FY 1980, the ETS-IV will be launched by an N-II rocket. The TT-500A small rocket for experiments with new materials will also be launched.

Satellite tracking will continue with improved equipment and systems at the Central and Katsuura stations.

Tsukuba Space Center will receive improved test facilities for rockets and satellites. Rocket propellant storage and test facilities will also be constructed. Development of guidance control systems will also be promoted at Tsukuba.

CSO: 4120

MITI TO PROMOTE SPACE INDUSTRY

Tokyo JPE AVIATION REPORT-WEEKLY in English 9 Jul 80 pp 9, 10

[Text]

The Ministry of International Trade and Industry (MITI) plans to take steps in FY 1981 to promote the Japanese space industry's equipment investments as the private sector has been increasing investment in space equipment steadily to prepare an independent foundation for space industry development.

Specifically, it will apply the special depreciation system as a tax incentive to investment in space-related plants and equipment, set up a special financing quota for such investments in the Japan Development Bank, and subject the space industry to the special law concerning promotion of certain machinery and information industries. This law is designed for development, financing and inter-company collaboration of certain designated industries.

MITI will also begin to study a space industry outlook this autumn and draft an interim report at the end of March 1981 or FY 1980. The outlook will project the scale of the space industry, growth, necessary governmental assistance and international cooperation over the next 10 years on the basis of the ongoing domestic and overseas surveys.

The ministry's policy of promoting t space industry took shape when it set up a space industry office at its Machinery and Information Industries Bureau last September.

According to the Japan Machinery Industry Association, domestic space-related companies number 65, including Kawasaki Steel Corp., Nippon Sanso K.K., Toshiba Corp., Nippon Electric Co. (NEC), Fujitsu, Ltd, Mitsubishi Electric Corp. (MELCO), Mitsubishi Heavy Industries, Ltd., Nissan Motor Co., Canon Inc., Nippon Kogaku K.K., Yokohama Rubber Co. and Marubeni Corp.

Their space products sales increased to ¥105,400 million in FY 1978 from ¥87,400 million in FY 1975. Exports more than double in the three years, reaching ¥23,600 million.

Their investments in space-related plant and equipment in FY 1978 rose to ¥5,607 million from FY 1975's ¥3,250 million. The cumulative total for FY 1975-78 reached ¥13,298 million, of which 29 percent was used for software development, 24.6 percent for satellite equipment, 22.2 percent for ground facilities and 20.1 percent for rockets.

CSO: 4120

FLIGHT OF T-2 CCV PLANNED FOR 1983

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 p 9

[Text]

A research program on the control-configured vehicle (CCV) of the TR&DI will progress to the prototype stage in FY 1981 for which funds of ¥3,000 million will be requested. With FY 1981 funding, the fly-by-wire flight control system will be fabricated and an ASDF T-2 supersonic trainer will be modified as an experimental CCV aircraft. Flight tests of the T-2 CCV will begin in FY 1983. Expertise gained from the CCV research program is expected to be applied first in development of an advanced support fighter to replace the F-1.

As an in-house program, the TR&DI started research on the CCV in FY 1977 using ¥150 million. During the first year, basic designing and related experiments were carried out. In FY 1979, a subsequent three-year program requiring ¥3,418 million started for fabrication of ground test equipment and CCV structural components.

The T-2 CCV will be flight tested mainly by the ASDF Air Proving Wing at Gifu in FYs 1983-84, according to present planning.

CSO: 4120

DEVELOPMENT PLAN FOR COMMAND-COMMUNICATIONS VEHICLE

Tokyo JPE AVIATION REPORT-WEEKLY in English 16 Jul 80 p 10

[Text]

The GSDF is currently testing prototypes of a command/communications vehicle. Sixty-eight vehicles are planned to be deployed during the FY 1980-84 Medium-Term Defense Program with self-propelled howitzer and reconnissance units of divisional commands. Procurement of the three-axle six-wheel armed vehicle is scheduled to begin in FY 1982 for the first 17 units. The GSDF will eventually procure 210 units of the vehicle that can be operated at a maximum speed of 100km/h.

Komatsu Ltd. is responsible for design and development of the vehicle while Isuzu Motors and Bridgestone Tire are suppliers of the engine and tires, respectively.

General specifications of the vehicle follow: Weight, 13 tons; Length, 5.5m; Width, 2.5m; Height, 2.4m; Maximum speed, 100km/h; Armament, one 12.7mm and one Model 62 7.62mm machine guns; Engine, four-cycle 10-cylinder water-cooled diesel of 300 hp at 2,700rpm.

CSO: 4120

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